

CLAIMS

1. A method for determining resource capabilities in a production environment, said method comprising:

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initially evaluating a plurality of jobs within a production environment;

estimating at least one peak-demand production rate associated with said production environment, in response to evaluating said plurality of jobs;

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thereafter automatically calculating minimal resource capacities of said production environment based on estimating said at least one peak-demand production rate, thereby determining resource capabilities thereof.

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2. The method of claim 1 wherein said production environment comprises a printing environment.

3. The method of claim 2 wherein said printing environment comprises a print shop.

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4. The method of claim 1 wherein said plurality of jobs comprises a plurality of printing jobs.

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5. The method of claim 1 wherein calculating minimal resource capacities of said production environment, further comprises

identifying at least one achievable region and at least one un-achievable region: and

thereafter calculating at least one Pareto optimal solution in response to identifying at least one achievable region and at least one un-achievable region.

6. The method of claim 1 wherein calculating minimal resource capacities of
5 said production environment, further comprises:

calculating minimal resource capacities of said production environment based on a linear programming (LP) analysis.

- 10 7. The method of claim 1 wherein calculating minimal resource capacities of said production environment, further comprises:

calculating minimal resource capacities of said production environment based on a generalized geometrical algorithm.

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8. The method of claim 1 wherein said production environment comprises a lean document production environment.

9. The method of claim 1 wherein calculating minimal resource capacities of
20 said production environment, further comprises:

calculating minimal resource capacities of said plurality of resources of said production environment based on a multi-objective optimization thereof.

- 25 10. A method for determining minimal resource capabilities in a printing environment, said method comprising:

initially evaluating a plurality of printing jobs within a printing environment, wherein said printing environment comprises a print shop;

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estimating at least one peak-demand production rate associated with said printing environment, in response to evaluating said plurality of printing jobs; and

5 thereafter automatically calculating minimal resource capacities of said plurality of resources of said printing environment based on estimating said at least one peak-demand production rate and a multi-objective optimization thereof, thereby determining minimal resource capabilities thereof.

10 11. A system for determining resource capabilities in a production environment, said system comprising:

 a plurality of jobs evaluated within a production environment;

15 estimation module for estimating at least one peak-demand production rate associated with said production environment, wherein said estimation module estimates said at least one peak-demand production rate in response to evaluating said plurality of jobs; and

20 calculation module for automatically calculating minimal resource capacities of said production environment based on an estimation of at least one peak-demand production rate via said estimation module, thereby determining resource capabilities thereof.

25 12. The system of claim 11 wherein said production environment comprises a printing environment.

 13. The system of claim 12 wherein said printing environment comprises a print shop.

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14. The system of claim 11 wherein said plurality of jobs comprises a plurality of printing jobs.
15. The system of claim 11 wherein said calculation module identifies at least one achievable region and at least one un-achievable region and thereafter calculates at least one Pareto optimal solution in response to identifying at least one achievable region and at least one un-achievable region.
16. The system of claim 11 wherein said calculation module calculates minimal resource capacities of said production environment based on a linear programming (LP) analysis.
17. The system of claim 11 wherein said calculation module calculates minimal resource capacities of said production environment based on a generalized geometrical algorithm.
18. The system of claim 11 wherein said production environment comprises a lean document production environment.
19. The method of claim 11 wherein said calculation module calculates minimal resource capacities of said plurality of resources of said production environment based on a multi-objective optimization thereof.
20. The method of claim 11 wherein said calculation module comprises at least one calculation module among a plurality of varying calculation modules for calculation module for automatically calculating minimal resource capacities of said production environment.